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09/920,232	07/31/2001	Alex Xueyuan Huang	3399P046	5302

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BLAKELY SOKOLOFF TAYLOR & ZAFMAN/PDC
12400 WILSHIRE BOULEVARD
SEVENTH FLOOR
LOS ANGELES, CA 90025

EXAMINER

FLEURANTIN, JEAN B

ART UNIT	PAPER NUMBER
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2162

DATE MAILED: 12/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/920,232	Applicant(s) HUANG ET AL.	
	Examiner JEAN B. FLEURANTIN	Art Unit 2162	

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 21-29 is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-12, 14-19, 30-35 and 37-39 is/are rejected.
- 7) ☒ Claim(s) 7, 13, 20 and 36 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

Response to Applicant's Remarks

1. Applicant's arguments, filed 7 July 2004, with respect to the rejection(s) of claims 1-39 under 35 U.S.C. 102 have been fully considered and are persuasive. Therefore, the rejection of claims 7, 13, 20-29 and 36-39 has been withdrawn. However, claims 1-6, 8-12, 14-19 and 30-35 upon further consideration, a new ground(s) of rejection is made based 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,295,541 issued to Bodnar et al. ("hereinafter Bodnar") in view of U.S. Patent No. 6,067,551 issued to Brown et al. ("hereinafter Brown").

Drawings

2. The amendment (Figure 7 of the drawings) has been entered. The objection of the Drawings as indicated in the last Office Action has been withdrawn.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 37-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 37 recites "a processing system" in claim. There is insufficient antecedent basis for this limitation in the claim.

Art Unit: 2162

For the purpose of examination, the examiner has considered "A processing system" as - - A computer implemented processing system - -.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 37-39 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

MPEP 2106 IV.B.2.(b)

A claim that requires one or more acts to be performed defines a process. However, not all processes are statutory under 35 U.S.C. 101. Schrader, 22 F.3d at 296, 30 USPQ2.d at 1460. To be statutory, a claimed computer-related process must either: (A) result in a physical transformation outside the computer for which a practical application in the technological arts is either disclosed in the specification or would have been known to a skilled artisan, or (B) be limited to a practical application within the technological arts.

Claim 37, in view of the above cited MPEP section, are not statutory because they merely recite a number of computing steps without producing any tangible result and/or being limited to a practical application within the technological arts. The use of a computer has not been indicated.

Art Unit: 2162

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 8-12, 14-19 and 30-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,295,541 issued to Bodnar et al. ("hereinafter Bodnar") in view of U.S. Patent No. 6,067,551 issued to Brown et al. ("hereinafter Brown").

As per claim 1, Bodnar discloses "a method of synchronizing states of data between a plurality of devices over ~~an unreliable a~~ communication channel" (see col. 10, lines 57-60), the method comprising: "retrieving data from the devices" as a mechanism for retrieving a record from a client, (see col. 42, lines 2-3);

"updating centrally stored data, based on the data retrieved from the devices" as the synchronizer is capable of automatically synchronizing data among an arbitrary number of accessible datasets in a single synchronization session following user selection of datasets, (see col. 10, lines 57-60); and

"updating the data states on the devices based on the updated centrally stored data" as the synchronizer examines each client to identify any changes in the client that the synchronizer has not seen before, and any changes in the GUD that the client has not seen before, and based on those fresh changes, determines actions to be

Art Unit: 2162

performed (see col. 42, lines 42-47), "including communicating with at least one of the devices over the unreliable communication channel" as includes various conflict or duplicate resolution strategies that handle the increased complexities of allowing synchronization even data from datasets that are not available, (see col. 4, lines 29-33). Bodnar fails to explicitly disclose automatically recover from a prior synchronization failure. However, Brown discloses the claimed automatically recover of the simultaneous (see col. 15, line 46 to col. 16, line 21). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combined teachings of Bodnar and Brown with automatically recover from a prior synchronization failure. Such modification would allow the teachings of Bodnar and Brown to improve the accuracy and the reliability of the reliable data synchronization over unreliable networks, and to provide facilitate maintaining an updated master copy document that reflects the latest edits saved by a user (see col. 18, lines 36-37).

As per claim 2, Bodnar discloses "wherein the ~~unreliable~~ communication channel comprises a wireless network" (see col. 4, lines 29-33).

As per claim 3, Bodnar discloses "wherein the wireless network is a wireless telecommunications network" (see col. 4, lines 14-25).

As per claim 4, Bodnar discloses "determining actual states of the data on the devices" as a means of synchronizing each of the more than two designated datasets

Art Unit: 2162

includes a record that corresponds to and is in a synchronized state with (see col. 4 lines 60-65); and

"updating centrally stored data indicating actions to be performed on the devices and states of the data on the devices" as the synchronizer examines each client to identify any changes in the client that the synchronizer has not seen before, and any changes in the GUD that the client and based on those fresh changes, determines actions to be performed (see col. 42, lines 42-47).

As per claim 5, Bodnar discloses "wherein said updating the data states on the devices comprises updating the data states on the devices based on the data indicating actions to be performed on the devices and data indicating the actual states of the data on the devices", (see col. 4, lines 60-65), and column 5, lines 1-7.

As per claim 6, Bodnar discloses "wherein said updating centrally stored data comprises: updating a truth database representing a true state of the data" (see col. 25, lines 12-15), and

updating an action database indicating actions to be performed on the devices during a next update" as the synchronizer examines each client to identify any changes in the client that the synchronizer has not seen before, and any changes in the GUD that the client and based on those fresh changes, determines actions to be performed (see col. 42, lines 42-47), and column 43, lines 12-27.

Art Unit: 2162

As per claim 8, Bodnar discloses "a method of synchronizing states of data between a plurality of devices" (see col. 10, lines 57-60), the method comprising:

"retrieving data from the devices" as a mechanism for retrieving a record from a client (see col. 42, lines 2-3);

"~~if any~~, by updating centrally stored data" as the synchronizer is capable of automatically synchronizing data among an arbitrary number of accessible datasets in a single synchronization session following user selection of datasets, (see col. 10, lines 57-6); and

"updating the data states on the devices" as the synchronizer examines each client to identify any changes in the client that the synchronizer has not seen before, and any changes in the GUD that the client has not seen before, and based on those fresh changes, determines actions to be performed (see col. 42, lines 42-47), "including communicating with at least one of the devices over a wireless network" as includes various conflict or duplicate resolution strategies that handle the increased complexities of allowing synchronization for an arbitrary number of datasets and including in the synchronization even data from datasets that are not available, (see col. 4, lines 29-33). Bodnar fails to explicitly disclose automatically recovering from a prior synchronization failure. However, Brown discloses the claimed automatically recover of the simultaneous (see col. 15, line 46 to col. 16, line 21). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combined teachings of Bodnar and Brown with automatically recovering from a prior synchronization. Such modification would allow the teachings of Bodnar and Brown to

improve the accuracy and the reliability of the reliable data synchronization over unreliable networks, and to provide facilitate maintaining an updated master copy document that reflects the latest edits saved by a user (see col. 18, lines 36-37).

As per claim 9, Bodnar discloses "wherein the wireless network is a wireless telecommunications network" (see col. 4, lines 14-25).

As per claim 10, in addition to claim 1, Bodnar discloses "determining actual states of the data on the devices" as a means of synchronizing each of the more than two designated datasets includes a record that corresponds to and is in a synchronized stated with (see col. 4, lines 60-65); and

"maintaining centrally stored data indicating actions to be performed on the devices and states of the data on the devices" as the synchronizer examines each client to identify any changes in the client that the synchronizer has not seen before, and any changes in the GUD that the client has not seen before, and based on those fresh changes, determines actions to be performed (see col. 42, lines 42-47).

As per claim 11, Bodnar discloses "wherein said updating the data states on the devices comprises updating the data states on the devices based on the centrally stored data" as the synchronizer examines each client to identify any changes in the client that the synchronizer has not seen before, and any changes in the GUD that the

Art Unit: 2162

client and based on those fresh changes, determines actions to be performed (see col. 42, lines 42-47).

As per claim 12, in addition to claim 1, Bodnar discloses "updating a truth database representing a true state of the data" (see col. 14, lines 41-42); and

"updating an action database indicating actions to be performed on the devices during a next update" as the synchronizer examines each client to identify any changes in the client that the synchronizer has not seen before, and any changes in the GUD that the client and based on those fresh changes, determines actions to be performed (see col. 42, lines 42-47), and column 43, lines 12-27.

As per claim 14, Bodnar discloses "a method of performing synchronization process to synchronize states data between a plurality of devices" (see col. 10, lines 57-60), the method comprising:

"retrieving data from the devices" as a mechanism for retrieving a record from a client, (see col. 42, lines 2-3);

"updating the data indicating actions to be performed on the devices and the data indicating the actual states of the data on the devices, based on the results of the algorithm" as the synchronizer is capable of automatically synchronizing data among an arbitrary number of accessible datasets in a single synchronization session following user selection of datasets (see col. 10, lines 57-60); and

Art Unit: 2162

"updating the data states on the devices" as the synchronizer examines each client to identify any changes in the client that the synchronizer has not seen before, and any changes in the GUD that the client has not seen before, and based on those fresh changes, determines actions to be performed (see col. 42, lines 42-47), "including communicating with at least one of the devices over a wireless network" as includes various conflict or duplicate resolution strategies that handle the increased complexities of allowing synchronization for an arbitrary number of datasets and including in the synchronization even data from datasets that are not available (see col. 4, lines 29-33). Bodnar fails to explicitly disclose step of maintaining, in persistent storage data indicating actions to be performed on the devices and data indicating the actual states of the data on the devices. However, Brown discloses the claimed method for creating an multi user control file when the user is the first to access the specific master copy (see col. 11, lines 43-57). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combined teachings of Bodnar and Brown with maintaining, in persistent storage data indicating actions to be performed on the devices and data indicating the actual states of the data on the devices. Such modification would allow the teachings of Bodnar and Brown to improve the accuracy and the reliability of the reliable data synchronization over unreliable networks, and to provide facilitate maintaining an updated master copy document that reflects the latest edits saved by a user (see col. 18, lines 36-37).

Art Unit: 2162

As per claim 15, Bodnar discloses "wherein said updating the data states on the devices comprises updating the data states on the devices based on the data indicating actions to be performed on the devices and data indicating the actual states of the data on the devices" (see col. 4, lines 60-65), and column 5, lines 1-7.

As per claim 16, Bodnar discloses "wherein the wireless network is a wireless telecommunications network" (see col. 4, lines 14-25).

As per claims 17 and 33, Bodnar discloses "a method of synchronizing states of data between a plurality of devices" (see col. 10, lines 57-60), the method comprising:

"maintaining a truth database representing a true state of the data" as a means for storing two timestamps for each record a last modification time for determining the changes since a prior synchronization (see col. 25, lines 12-15);

"maintaining an action database indicating actions to be performed on the devices during a next update" as a means for storing two timestamps for each record a last modification time for determining the changes since a prior synchronization, and an original modification time to be used as the priority time that is compared during automatic conflict resolution, (see col. 25, lines 12- 18);

"retrieving the data from the devices, including communicating with at least one of the devices over the wireless network" as a mechanism for retrieving a record from a client (see col. 42, lines 2-3);

"updating the truth database and the action database based on a result of said determining" as a means for storing two timestamps for each record a last modification time for determining the changes since a prior synchronization, and an original modification time to be used as the priority time that is compared during automatic conflict resolution, (see col. 25, lines 12-17); and

"updating the data on the devices, including communicating with at least one of the devices over a wireless telecommunications network" as includes various conflict or duplicate resolution strategies that handle the increased complexities of allowing synchronization for an arbitrary number of datasets and including in the synchronization even data from datasets that are not available (see col. 4, lines 29-33). Bodnar fails to explicitly disclose step of determining actual current states of individual elements of the data based on the action database. However, Brown discloses the claimed method for creating an multi user control file when the user is the first to access the specific master copy (see col. 11, lines 43-57). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combined teachings of Bodnar and Brown with determining actual current states of individual elements of the data based on the action database. Such modification would allow the teachings of Bodnar and Brown to improve the accuracy and the reliability of the reliable data synchronization over unreliable networks, and to provide facilitate maintaining an updated master copy document that reflects the latest edits saved by a user (see col. 18, lines 36-37).

Art Unit: 2162

As per claim 18, Bodnar discloses "wherein said determining comprises determining actual current states of individual elements of the data so as to automatically recover from a synchronization failure" as the synchronizer is capable of automatically synchronizing data among an arbitrary number of accessible datasets in a single synchronization session following user selection of datasets, (see col. 10, lines 57-60).

As per claim 19, Bodnar discloses "wherein the data comprises contact data representing a plurality of contacts" (see figure 2).

As per claim 30, Bodnar discloses "an apparatus to synchronize data states a plurality of devices" (see col. 10, lines 57-60), the method comprising:

"a database system to store" (see figure 2, element 267)

"a truth database representing a true state of the data" as a means for storing two timestamps for each record a last modification time for determining the changes since a prior synchronization (see col. 25, lines 12-15), and

"an action database indicating actions to be performed on the devices during a next update" (see col. 4, line 54 to col. 5, line 31); and

"a synchronization engine to update the truth database and the action database, based on output of the recovery module" as the synchronizer is capable of automatically synchronizing data among an arbitrary number of accessible datasets in a single synchronization session following user selection of datasets, (see col. 10, lines 57-60),

Art Unit: 2162

and "to update data states on the devices based on the action database, by communicating with at least one of the devices over the wireless network" as includes various conflict or duplicate resolution strategies that handle the increased complexities of allowing synchronization for an arbitrary number of datasets that are not available (see col. 4, lines 29-33). Bodnar fails to explicitly disclose step of a recovery unit to determine actual current states of the data based on the action database and data retrieved from the devices. However, Brown discloses the claimed method for creating an multi user control file when the user is the first to access the specific master copy (see col. 11, lines 43-57). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify the combined teachings of Bodnar and Brown with a recovery unit to determine actual current states of the data based on the action database and data retrieved from the devices. Such modification would allow the teachings of Bodnar and Brown to improve the accuracy and the reliability of the reliable data synchronization over unreliable networks, and to provide facilitate maintaining an updated master copy document that reflects the latest edits saved by a user (see col. 18, lines 36-37).

As per claim 31, Bodnar discloses "wherein the wireless network is a wireless telecommunications network" (see col. 4, lines 14-25).

As per claim 32, Bodnar discloses "wherein the synchronization engine further is to update the truth database and the action database, based on output of the recovery

Art Unit: 2162

module, so as to automatically recover from a failure of a prior synchronization" as the synchronizer is capable of automatically synchronizing data among an arbitrary number of accessible datasets in a single synchronization session following user selection of datasets, (see col. 10, lines 57-60).

As per claim 34, Bodnar discloses "wherein said determining comprises determining actual current states of individual elements of the data so as to automatically recover from a synchronization failure" as the synchronizer is capable of automatically synchronizing data among an arbitrary number of accessible datasets in a single synchronization session following user selection of datasets (see col. 10, lines 57-60).

As per claim 35, Bodnar discloses "wherein the data comprises contact data representing a plurality of contacts" (see figure 2).

Notice For Allowable

6. Claims 37-39 would be allowable if rewritten to overcome the rejections under 35 U.S.C. 101 and 112 second paragraph, set forth in this rejection.

Allowable Subject Matter

7. Claims 7, 13, 20 and 36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Claims 21-29 are allowed over the prior art of record.

The following is a statement of reasons for the indication of allowable subject matter: a method of synchronizing states of contact between a plurality of devices, the method comprising: maintaining a truth database representing a true state of the contact data, the contact data representing a plurality of contacts; maintaining an action table for each of the devices, the action table indicating action to be performed on the corresponding device during a next update; retrieving contact data from the devices, including communicating with at least one of the devices over a wireless telecommunications network; determining actual current states of the contacts on the devices based on the contact data retrieved from the devices and the action tables so as to automatically recover from a synchronization failure, updating the truth database and the action tables based on a result of said determining; creating an effective action table for at least one of the devices based on the update action table for the device and a previous version of the action table for the device, to account for any of the devices which were offline during a most-recent synchronization; saving the truth database and the effective action table in an atomic transaction; and using the effective action table to update the states of the contact data on the devices, including communicating with at

Art Unit: 2162

least one of the devices over the wireless telecommunications network, as recited in claim 21. Claims 22-29 depend on claim 21 are also allowed.

9. The following is a statement of reasons for the indication of allowable subject matter: a processing system comprising: a processor; a data communication device coupled to the processor to communicate data with a plurality of remote devices, at least one of which operates on a wireless telecommunications network; and a storage facility coupled to the processor and storing instructions for execution by the processor to cause the processing system to perform a method comprising: maintaining a truth database representing a true state of data maintained by the devices; maintaining an action database indicating actions to be performed on the devices during a next update; retrieving the data from the devices, including communicating with at least one of the devices over the wireless telecommunications network; determining actual current states of individual states of individual elements of the data based on the action database and the data retrieved from the devices; updating the truth database and the action database based on a result of determining the actual current states of individual elements of the data; creating an effective action database which accounts for any of the devices which were offline during a previous synchronization; saving the truth database and the effective action database in an atomic transaction; and using the effective action database to update the data on the devices including communicating with at least one of the devices over the wireless telecommunications networks, as recited in claim 37. Claims 38 and 39 depend on claim 37 would be allowable.

Art Unit: 2162

CONTACT INFORMATION


10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEAN B. FLEURANTIN whose telephone number is 571 – 272-4035. The examiner can normally be reached on 7:05 to 4:35.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOHN E BREENE can be reached on 571 – 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jean Bolte Fleurantin

December 11, 2004


SHAHID ALAM
PRIMARY EXAMINER